CLAIMS

1. A transfer sheet that transfers a biologically active substance to a culture region on a culture plate when placed on the culture plate, the sheet comprising:

a sheet base; and

a holding area provided on the sheet base, the area holding at least one substance having a biological activity to a cell;

wherein the holding area is provided in a position for covering the culture region of the culture plate.

2. The transfer sheet according to claim 1, wherein the biologically active substance is releasable from the sheet.

3. The transfer sheet according to claim 1, wherein the sheet contains two or more holding areas.

4. The transfer sheet according to claim 3 wherein the holding areas hold different biologically active substances or different combinations of two or more biologically active substances.

5. The transfer sheet according to claim 3, wherein the holding areas hold a biologically active substance in different concentrations.

6. The transfer sheet according to claim 1, wherein the sheet base is made from an elastic or flexible film at least at the holding area.

7. The transfer sheet according to claim 1,

wherein the holding area is a protruding portion provided on the sheet base, and the biologically active substance is held on the protruding area.

8. The transfer sheet according to claim 1, wherein a holding layer is formed on an entire or partial surface of the sheet base for holding a biologically active substance thereon.

9. The transfer sheet according to claim 1, wherein the holding area is able to release the biologically active substance in a sustainable manner or the area releases a biologically active substance provided with a property for sustained release.

10. The transfer sheet according to claim 1, wherein each holding area or a group of two or more areas is surrounded by a protruding wall structure.

11. A cell culture kit comprising:

a culture plate having at least one culture region for culturing a cell; and

a sheet having a portion to cover the culture region;

wherein each of the culture region and the covering portion holds at least one substance having a biological activity to a cell, and at least one biologically active substance held by the culture region or the covering portion is immobilized thereon.

12. The cell culture kit according to claim 11, wherein the kit contains two or more combinations of

the culture regions and the covering portions.

13. The cell culture kit according to claim 11 or 12, wherein the biologically active substance held in the culture region is immobilized thereto, the biologically active substance held in the covering portion is attached so as to be released in contact with a culture liquid, and the sheet base and the covering portion constitute a transfer sheet for transferring the biologically active substance to the culture region.

14. The cell culture kit according to claim 11, wherein two or more culture regions are present holding the biologically active substance in different concentrations.

15. The cell culture kit according to claim 11, wherein the culture region is formed in a recess formed in the plate.

16. The cell culture kit according to claim 11, wherein the culture region is surrounded by a protruding wall-shaped structure.

17. The cell culture kit according to claim 11, wherein a layer for holding a biologically active substance is formed on an entire or partial surface of the sheet base.

18. The cell culture kit according to claim 17, wherein the holding layer is able to release the biologically active substance in a sustainable manner

or the layer releases a biologically active substance provided with a property for sustained release.

19. The cell culture kit according to claim 11, wherein the covering portion is formed in a recess formed in the sheet base.

20. The cell culture kit according to claim 11, wherein the covering portion is formed on a protruding portion formed on the sheet base.

21. The cell culture kit according to claim 11, wherein the covering portion is surrounded by a protruding wall-shaped structure formed on the sheet base.

22. A method for producing a transfer sheet according to any of claims 1 to 10, the method comprising a step of providing a holding area with a biologically active substance by using liquid discharge means.

23. The method according to claim 22, wherein the liquid discharge means is discharge means by a thermal ink jet method.

24. The method according to claim 22, wherein the liquid discharge means is discharge means by a piezo ink jet method.

25. The method according to claim 22, further comprising a step of immobilizing the biologically active substance by applying an immobilizing energy from the exterior.

26. A method for screening cell culture conditions utilizing a transfer sheet of any of claims 1 to 10, the method comprising the steps of:

placing the transfer sheet on a plate having at least one culture region to cover the culture region containing a culture liquid with a holding area holding a biologically active substance on the transfer sheet; and

supplying the culture liquid with the biologically active substance from the holding area.

27. The screening method according to claim 26, further comprising a step of replenishing the culture liquid with a substance necessary for screening.

28. The screening method according to claim 26, further comprising a step of replacing the sheet with another transfer sheet of a same or different type.

29. The screening method according to claim 26, further comprising a step of observing a morphological change of the cell.

30. The screening method according to claim 29, wherein cells are stained for evaluation.

31. The screening method according to claim 26, further comprising a step of executing a quantitative determination of a substance synthesized in the cell.

32. The screening method according to claim 26, further comprising a step of executing a quantitative determination of a substance incorporated in the cell.

33. The screening method according to claim 31 or 32, wherein the step of executing a quantitative determination is carried out by at least one of a radiation intensity measurement, a fluorescence intensity measurement, a luminescence intensity measurement and an optical absorbance measurement.

34. A method for screening a cell culture condition with a cell utilizing a cell culture kit according to any of claims 11 to 21, comprising the steps of:

placing a sheet having a covering portion on a plate having a culture region to cover the culture region with the covering portion,

culturing a cell in the culture region covered with the covering portion in contact with a first biologically active substance immobilized one of the culture region and the covering portion; and

supplying the culture liquid with a second biologically active substance attached to the rest of the culture region and covering portion.

35. A screening method comprising the steps of:

placing a sheet having a covering portion on a plate having a culture region to cover the culture region with the covering region,

culturing a cell in the culture region covered with the covering portion in contact with a biologically active substance immobilized in one of the

culture region and the covering portion and

supplying the culture liquid with a biologically acitive substance attached to the rest of the culture region and covering portion.

36. A method for producing a cell culture kit of claim 13, the method comprising a step of applying a biologically active substance to a covering portion by using liquid discharge means.